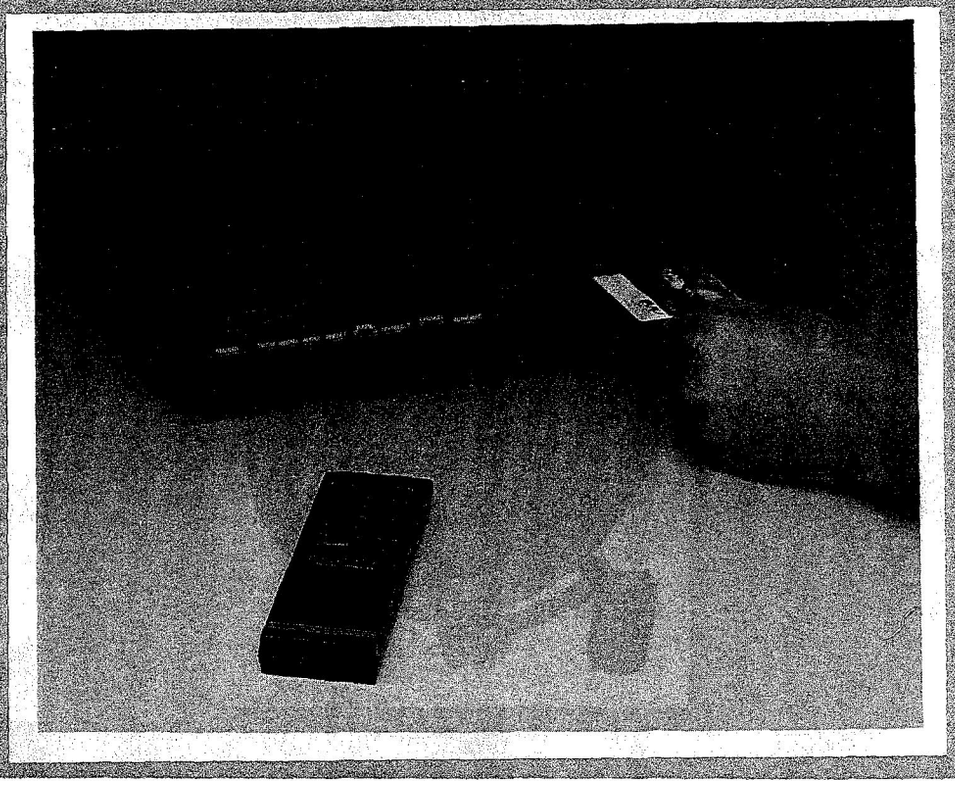
AMSTRAD FIDELITY



SRD400

SATELITE RECEIVER DECODER & DISHES

SERVICE MANUAL

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TECHNICAL SPECIFICATION

RECEIVER

Dimensions	: 335 x 235 x 65mm
Weight	: 2.5Kg
Mains Supply	: 240V AC 50Hz
Tuning Frequency Range	: 964.25 to 1685.50MHz
Chanel Bandwidth	: 27MHz
Adjacent Channel Spacing	: 14.75MHz
AFC Hold-in Range	: ±7.5MHz
Dynamic Range	: -30 to -70dBm
Threshold	: 8dB Carrier to Noise (with threshold extension)
RF Output	: Channel 38 (607.25MHz) Adjustable from Channel 32 (559.25MHz) to Channel 40 (623.25MHz)
De-Emphasis	: PAL/MAC (SRD400 only)
Audio	: Wegener Panda 1 (stereo) 4 subcarrier system Mode Switchable
Output Level	: 1V RMS at 50kHz input deviation
Frequency Response	: 50Hz to 15kHz
Input/Output connectors	: LNB in 75Ω F-Type RF in 75Ω coaxial RF out 75Ω coaxial Audio Out RCA phono pair Scart/Peritel 21 Way Interface 15-way subminiature D-type (SRX100 & SRX200 only) PAL/MAC Video Baseband RCA Phono (SRD400 only)

LNB

Input Frequency Range	: 10.95 to 11.70GHz
Output Frequency Range	: 950 to 1700MHz
Local Ocsillator	: 10GHz
Gain	: 53dB
Noise	: 1.6dB/1.8dB
Polarisation Switching	: Electrical
Output Connector	: 75Ω F-Type

NOTE: ENGINEERS NOTE THAT THE DECODER PCB IS SUBJECT TO REPLACEMENT IF FOUND DEFECTIVE. DO NOT ATTEMPT TO REPAIR IT.
IF FOUND DAMAGED UPON RETURN FULL CHARGE WILL BE PAYABLE.
NO SPARE PARTS WILL BE SUPPLIED TO REPAIR DECODER PCB.

SAFETY TESTS

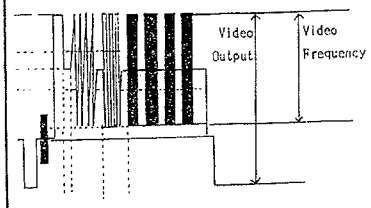
Please note: when any work is completed on this unit, the following safety tests must be completed to ensure continued electrical safety.

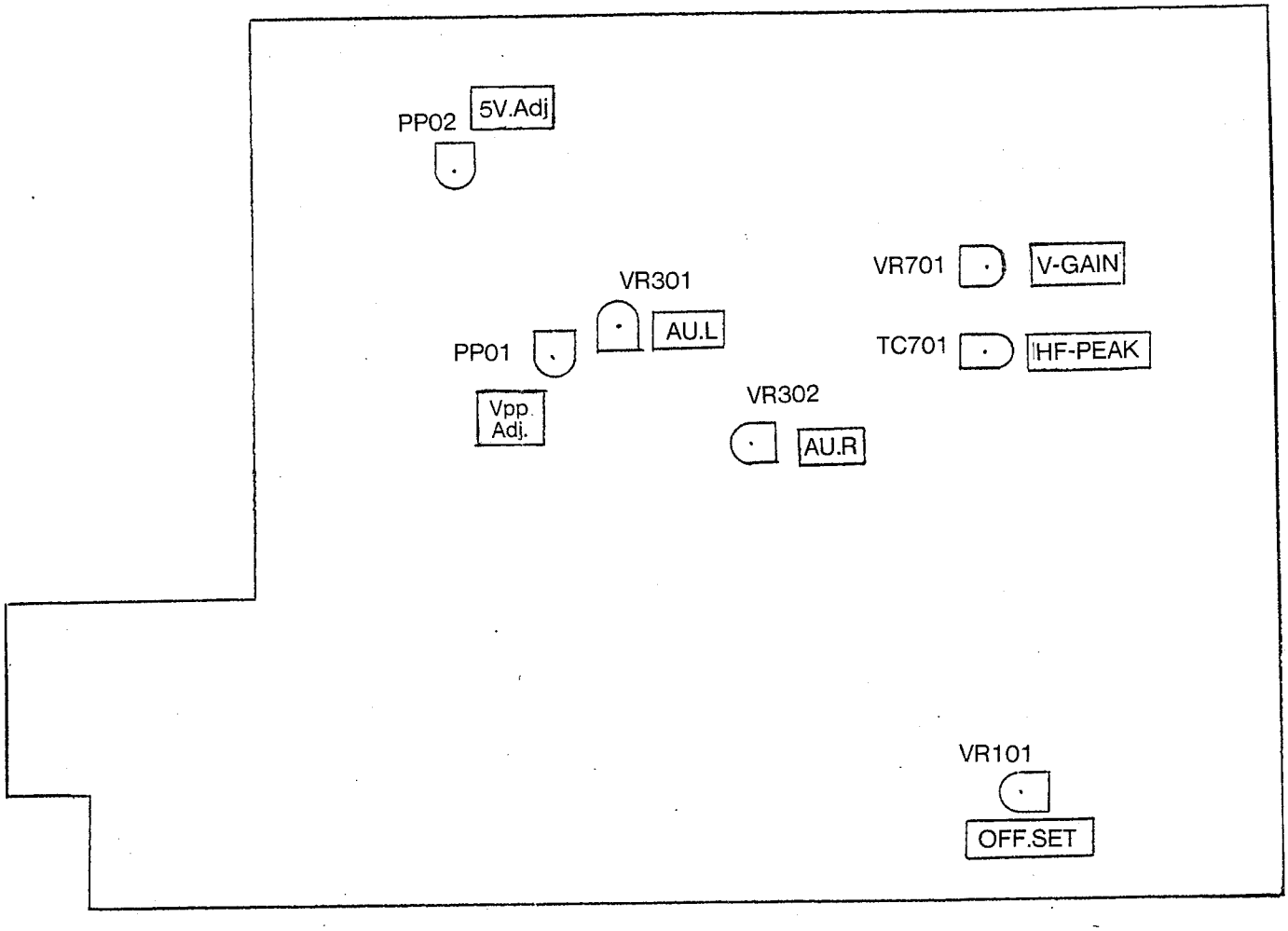
1. **Flash test from the mains lead with live and neutral joined together to all accessible external metal points at 4kV.**
2. **Meggertest at 400V DC from tha mains lead with live and neutral joined together to all accessible metal points. The reading must not fall below 2 Mohms.**

NB. Ensure the on/off switch is switched on when both these tests are carried out.

In keeping with our policy of continually improving our service and the technical quality of our products, we reserve the right to change component types, manufacturers, sources of supply or technical specification at any time.

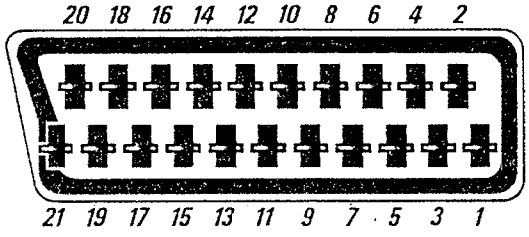
ALIGNMENT INSTRUCTIONS

ADJUSTMENT ITEM	INPUT C/N	MODULATED SIGNAL	MEASUREMENT APPARATUS	TEST POINT	ADJUSTED POINT	ADJUSTMENT METHODS	REF.
+5V Adjustment.	—	—	Voltage Meter	5V Adj.	PP 02	Adjust it to get +5V	Fig. 2.
Vpp Adjustment	—	—	Voltage Meter	VPP Adj.	PP 01	Adjust it to get +21V (Test Mode 5)	Fig. 2.
Video Level Adjustment	20 dB<	Multiburst	Oscilloscope	Pin Jack (PAL B.B)	VR 701		Fig. 1.
Video Frequency Response Adjustment	20 dB<	Multiburst	Oscilloscope	Pin Jack (PAL B.B)	CT 701	Adjust it to get flat video frequency response (0.5 ~ 4.8MHz)	Fig. 1.
Audio Level Adjustment.	20 dB<	1kHz Sin Wave	Oscilloscope.	Pin Jack (L, R)	L: VR301 R: VR302	Adjust it to get 2Vp-p Audio Level.	Fig. 1.
AFC Adjustment.	8 dB	Colour Bar	Monitor TV	Pin Jack (PAL B.B)	VR 101	Adjust it to get 1332 on Frequency Display with 1332 MHz Input Frequency.	Fig. 1.



SCART / PERITEL SOCKET

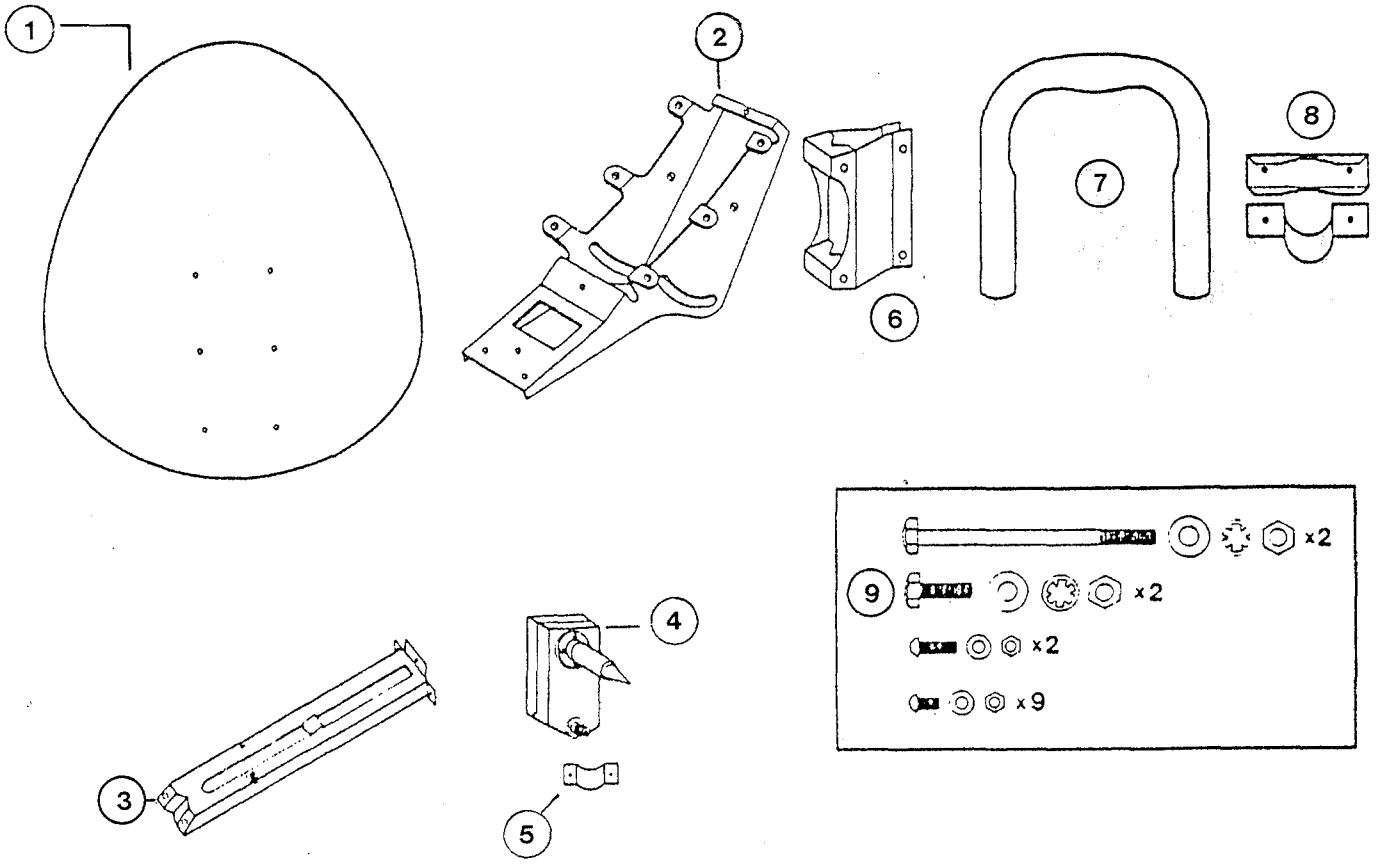
The standard SCART/PERITEL socket connections are as follows:



1 Audio output B (right)
2 Audio input B 1*
3 Audio output A (left)
4 Audio earth
5 Blue earth
6 Audio input A 1*
7 Blue*
8 Switching voltage
9 Green earth
10 Data line 2*
11 Green*
12 Data line 1*
13 Red earth
14 Reserved
15 Red*
16 Blanking signal*
17 Video earth
18 Blanking signal earth
19 Video output
20 Video input 1*
21 Shield/earth

* NOTE - SCART/PERITEL pins 2, 6, 7, 10, 11, 12, 15, 16 and 20 are not implemented.

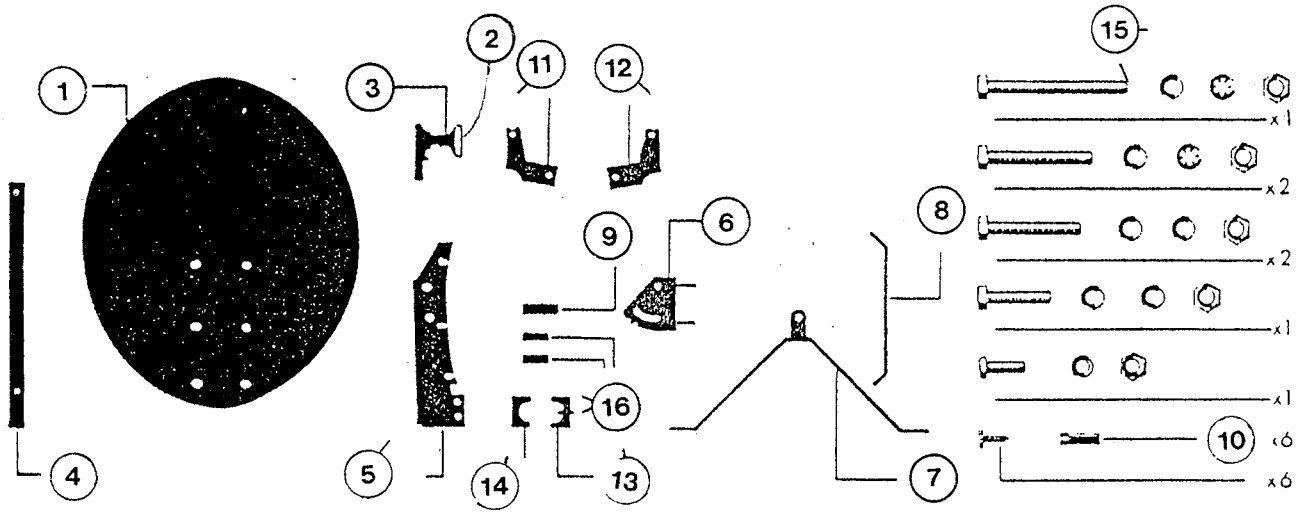
SDM45 WALL MOUNTING



SDM-45 WALL MOUNTING PARTS LIST

Ref.	Description	Part No.
1	Dish	240338
2	Dish Support	240339
3	Arm	240340
4	LNB	240341
5	LNB Clamp	240342
6	Tube Holder	240343
7	U-Tube	240344
8	Mounting Brackets	240345
9	Screw Kit Assembly	240346

SDM60 / SDX60 WALL MOUNTING



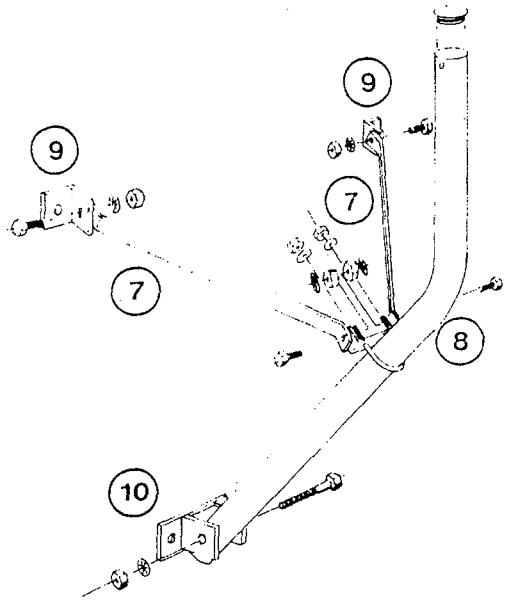
SDM-60 WALL MOUNTING PARTS LIST

Ref.	Description	Part No.
1	Dish	240640
2	LNB Cover	65001
3	LNB	65001
4	LNB Support Arm	
5	Main Support Arm	
6	Adj. Bracket	
7	Fixing Bracket	
8	Bracket Support	
9	Main Support Arm Spacer	40279
10	Main Support Arm Inserts	40279
11	LNB Clamp (LHD)	40279
12	LNB Clamp	40279
13	LNB Support Arm Clamp (LHD)	40279
14	LNB Support Arm Clamp (RHD)	40279
15	Screw Kit	91100
16	Adj. Bracket Spacer	

SDX-60 WALL MOUNTING PARTS LIST

Ref.	Description	Part No.
1	Dish	60100
2	LNB Cover	65001
3	LNB	65001
4	LNB Support Arm	
5	Main Support Arm	
6	Adj. Bracket	
7	Fixing Bracket	
8	Bracket Support	
9	Main Support Arm Spacer	40279
10	Main Support Arm Inserts	40279
11	LNB Clamp (LHD)	40279
12	LNB Clamp	40279
13	LNB Support Arm Clamp (LHD)	40279
14	LNB Support Arm Clamp (RHD)	40279
15	Screw Kit	91100
16	Adj. Bracket Spacer	

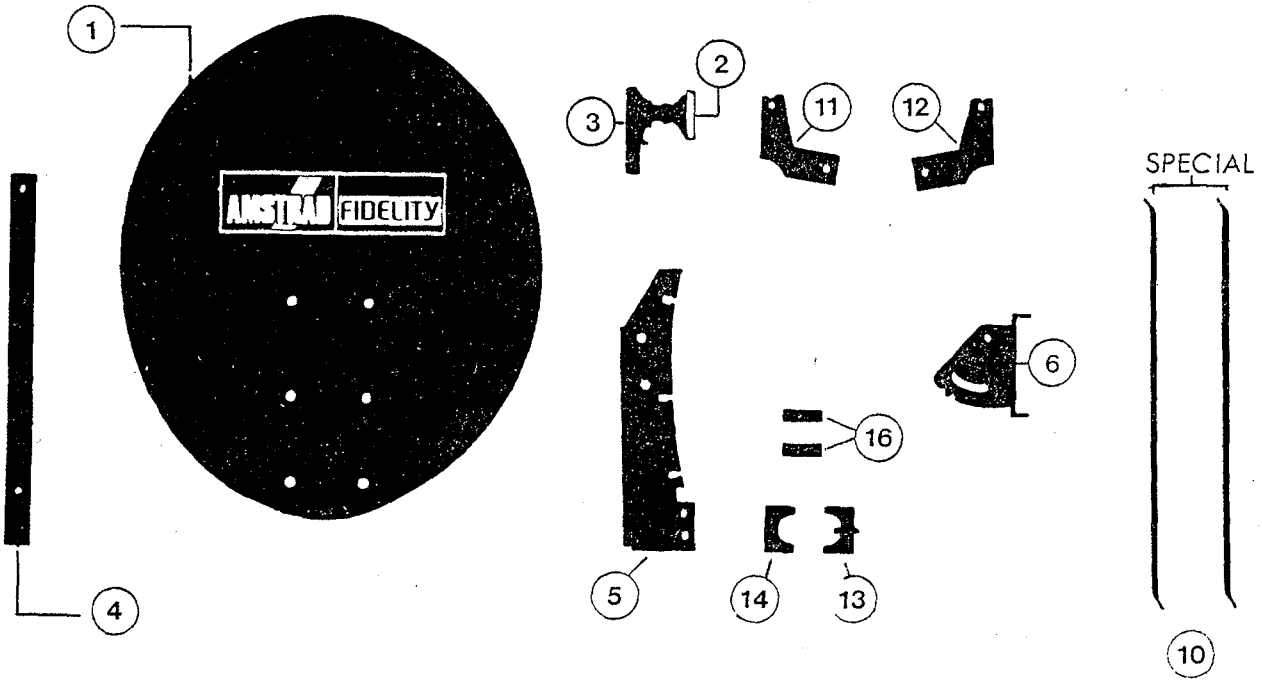
SDX80 WALL MOUNTING

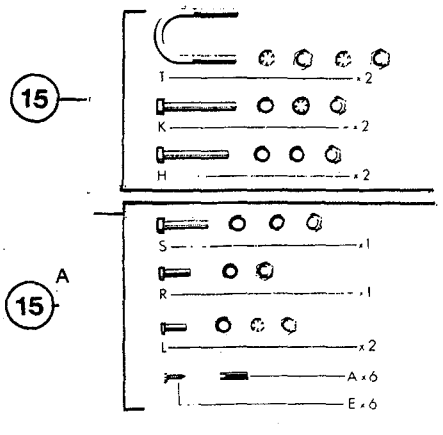


SDX-80 WALL MOUNTING PARTS LIST

Ref.	Description	Part No.
1	Dish	240104
2	LNB Cover	65001
3	LNB	65001
4	LNB Support Arm	240105
5	Main Support Arm	240106
6	Adj. Bracket	240107
7	Fixing Bracket	240108
8	Bracket Support	240109
9	Main Support Arm Top Bracket	240110
10	Main Support Arm Bottom Bracket	240111
11	LNB Clamp (LHD)	40279
12	LNB Clamp (RHD)	40279
13	LNB Support Arm Clamp (LHD)	40279
14	LNB Support Arm Clamp (RHD)	40279
15	Screw Kit	240112
15A	Screw Kit	240112/A
16	Adj. Bracket Spacer	240113

Dish Assembly





SRD400 ELECTRICAL PARTS LIST

Ref.	Description	Part No.
Diodes		
DP01, DP02	DI ARBA402 Rectifier	240371
DP03	DI ARB152LFA Rectifier	240372
DP09	DI MTZ3.0B	240373
DP11, DP23	DI MTZ6.8C	171488
DP12	DI AGZB15	240364
DP13, DP14, DP29, DP30, DP32, DP502, DP503, DV02, DL01-DL04, DP25-DP27, D107, DA02	DI 1SS133	150624
DP15, DP16, DP10	DI MTZ5.6B	240006
DP21, DP22	DI IN4002	400111
DP28	DI MTZ5.1C	171498
DP504	DI MTZ3.9B	240375
D101	DI GZA5.6Y	202190
D102	DI GMB01 High Speed Switching	240540
D105	DI DS442K	240376
D106	DI GZA6.8Y	240377
DA01	DI MTZ4.3BQ	240378
Transistors		
TP01, TP03	TR Q2SB1136	240379
TP02, TP04, TP07, TP12, Q101-Q103, Q151-Q154, Q157, Q302-Q304, TP503, TP505-TP507, TP509, Q701-Q703, Q705, Q711, Q718, Q801, Q803, Q804, TV04, TV06, TV07, TV09, TV11, TV14, TV50, TL01, TA01, TA03, TA05, TA06	TR 2SC1740S	50016
TP05, TP09	TR Q2SD1667	177045
TP06, TP08, TP13-TP15, Q104, Q155, Q156, Q704, Q706, Q707, Q802, TV01, TV03, TV05, TV10, TV13, TV15, TA02	TR 2SA933S	150874
TP10, TP11	TR Q2SC1741ASQ	240380
TP502, TP508	TR 2SB976R or 2SB976Q	240381
TP504	TR 2SK301R	151104
Q301	TR 3SK73Y or 3SK73R	240382
TA04	TR Q2SK937Y4	151332
IC's		
IP501	IC SI-3050C	240352
IP502	IC SI-3120C	240353
IC101	IC AMS40544	240354
IC102, 307	IC LA6324 or LM324N	170112
IC103	IC SDA2516	240018
IC105	IC UAA2001	240019
IC302	IC TBA229-2	240355
IC303, 305, 306	IC BA10324 or LA6324	240023
IC304	IC NE572N	240024
IC308, 309	IC MC14053BCP or TC4053BP	240025
IC503	IC NJM7812FA	151707
IC504	IC AN1431T	240028
IC505	IC 14L0247	240357
IC151	IC MC14499P	AMS40249
IV01	IC TDA8703	240358
IV02, IV03	IC UPD41101 or UPD42101	240359
IV04	IC SN74LS541N	240360
IV06	IC TDA8702	240361
IL01	IC TEA2929C	240362
Switches		
SW165-175	Tact Switch	240059
SA1	Slide Switch	240383
Coils & Inductors		
LP02	Choke Coil PLA1021A	240384
L101, 801	Fixed Inductor 100uH	154777
L301, 303	Fixed Inductor 33uH	153789
L302	Fixed Inductor 1.8uH	240046
L305	Fixed Inductor 1.2uH	240049
L306, 307, LV10	Fixed Inductor 12uH	240050
L701	Fixed Inductor 47uH	153791
L702	Fixed Inductor 15uH	151821
L802	Fixed Inductor 4.7uH	240385
LV04, L704	Fixed Inductor 3.3uH	240054
LV09	Fixed Inductor 10uH	993029
L703	Fixed Inductor 5.6uH	240053

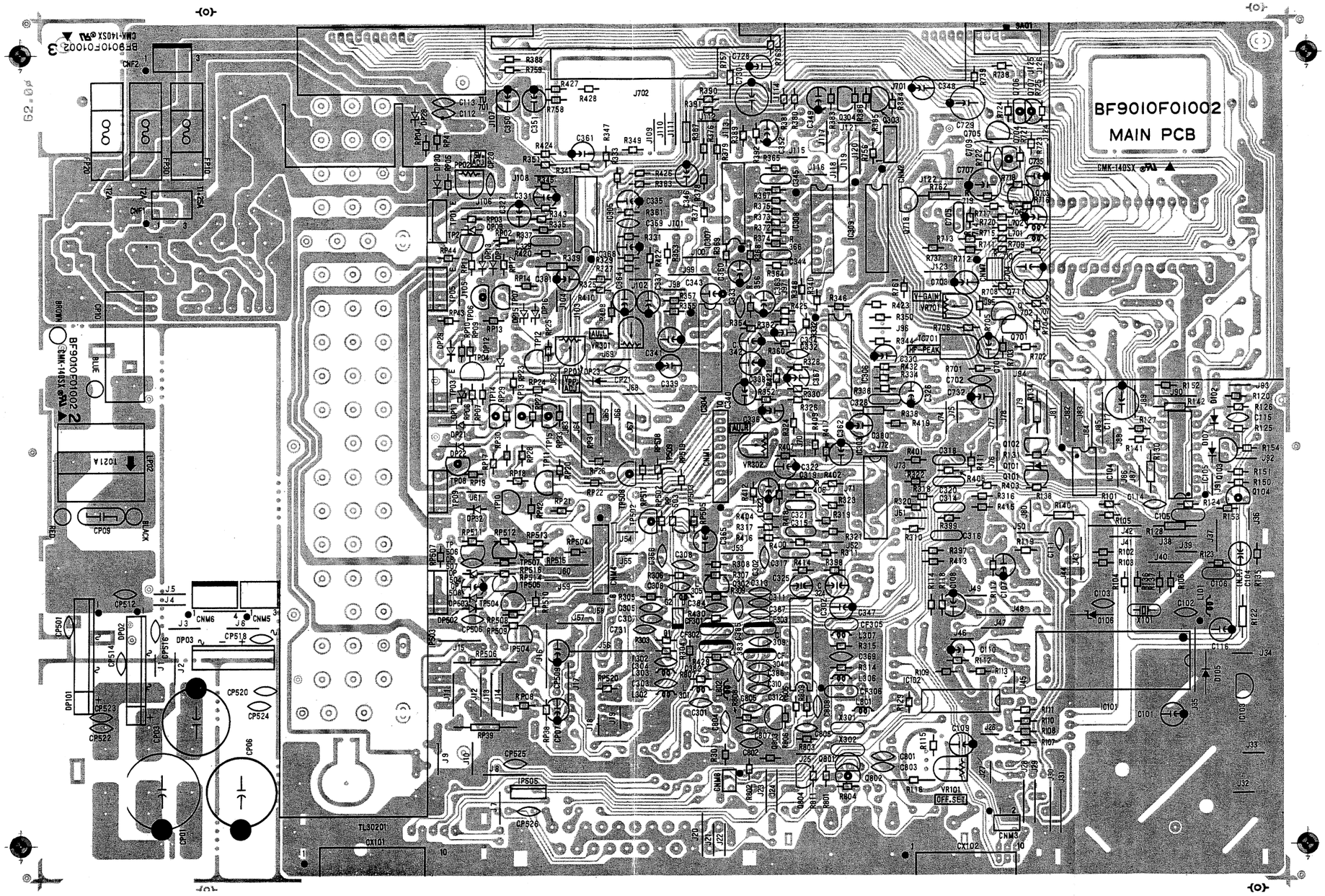
Description	Ref.	Part No.
Ceramic Capacitors		
15pF	C301, C304	201716
22pF	C102, C103	240225
33pF	C805	150514
39pF	C709	250067
47pF	C305, C382, C384, C807	150515
68pF	C383, C385	175129
200pF	C306	240234
330pF	C303	240233
1000pF 25V	C806	240458
2200pF	C112, C113	152643
4700pF 400V AC	CP09	174840
0.01µF	C111, C114, C115, C307, C308, C310-C313, C359, C369, C386, C387, C801-C804, C808	176755
0.022µF	C153, CP501-507, CP512, CP514, CP516, CP518, CP520, CP522-CP524	21027
0.1µF 25V	CP20, CP21, C151, C302, C309, C332, C333, C366, CP525, CP526, C702, C731	240459
Electrolytic Capacitors		
220pF	CA100	240460
1µF 50V	C101, C322, C323, C338, C339, C380, C381, CL04, CA11	157563
1µF/50V NP	C104	153328
2.2µF/50V NP	C107-C109, C340, C341	157672
4.7µF/50V	C326, C327, C334, C335, CV16, CV19, CL08	157565
10µF/16V	C330, C331, C336, C337, C346-C352, C360-C365, C367, C368, CP508, C706, C732	157581
10µF/16V NP	C324, C325	240461
10µF/50V	C110, CV01, CV17, CV26, CV31, CV40, CA09, CP05	240462
47µF/16V	C728	172074
47µF/25V	CV42	157650
100µF/10V	C152, C701, C703	240463
100µF/16V	C735, CA02, CA03, CA05, CA07, C735	157568
100µF/25V	CP509, CV09, CL14	157569
220µF/16V	CP07, C117, CP02, CP04	240464
220µF/10V	C116	240465
470µF/10V	C704, C707, C729, C730	240466
470µF/16V	C150, CL06	157675
2200µF/35V	CP06	157654
4700µF/25V	CP01, CP03	240241
Chip Capacitors		
4.7pF	CV51	240467
22pF	CV36	153894
27pF	CV33, 35	240468
39pF	CV34	153896
47pF	CV20	153897
51pF	C713	240469
56pF	CV32, CV38	240470
68pF	CV50	240471
100pF	CV37, CL03, C716	153901
150pF	C712	240472
180pF	CL15, C715	153904
270pF	C714	153906
330pF	CV10, CL02	153907
1000pF	CL12	240473
1500pF	CL07	240474
2200pF	CV15	240475
3300pF	CL17	240476
0.01µF	CV18, CV22, CV24, CV25, CV30	153918
0.022µF	CV07, CV14, CV28, CL09, CA06, CA10	153921
0.1µF/25V	CV08, CA04	240477
0.22µF	CL10	240478
Monolithic Capacitors		
0.1µF/50V	CV02-CV04, CV06, CV21, CV23, CL01	240479
Film Capacitors		
1500pF	C314-321	240480
2700pF	C705	240481
3300pF	C328, C329	240482
4700pF	C344, C345	240483
0.01µF	C105	240484
0.068µF	C106, CL05	240485
0.1µF	CV13, CV27	240486
0.22µF	CL11, CL13, CL16	240487
0.33µF	CP08	240488
Tantalum Electrolytic Capacitors		
3.3µF/16V	C342, C343	240489

Description	Ref.	Part No.
Carbon Film Resistors (all 1/5W or 1/6W)		
3.9Ω	RP11	240490
5.6Ω	RP17	250041
36Ω	R714	240203
47Ω	R806	152160
75Ω	R738	152163
100Ω	R151-R157	152166
150Ω	R305, R709, R712, R713, R715, R725	152168
180Ω	R758	152169
220Ω	R759, R807	250137
270Ω	R383, R384, R427, R428, R710, R720	240491
330Ω	RP06, RP10, R429, R430, R711, R721	240492
470Ω	R112, R163, R164, R306, R314, R315, R718, R719	152174
680Ω	R309, R724	240493
750Ω	R708	240494
820Ω	R301, R302, RP507, R704	152178
1kΩ	R360, R361, R387, RP502, RP503, R517, R518, R701, R705, R706, R722, R723, R801, R804, R808	152179
1.2kΩ	RP05, R385, R386	152180
1.5kΩ	RP09, RP25, RP38, RP41, R167	178070
1.8kΩ	RP03	152182
2kΩ	R352, R353	240208
2.2kΩ	R138, R423, R424, R802, R811	152183
2.7kΩ	RP04, RP088	152184
3.3kΩ	R108, R111, R153, R316, R317	152185
4.7kΩ	RP19, R105, R106, R131, R159, R161, R136, R137, R154, R343, R346, R347, R364, R365, R432, R703, R810	152188
5.1kΩ	R113, R717	176524
5.6kΩ	R109, R114, R318, R319, R368, R369, R415-R422, R425, R426	177966
6.8kΩ	RP24, R107, R110, R116, R322, R323, R379, R388	152190
7.5kΩ	R702	240495
10kΩ	RP12, RP14, RP18, RP20, RP27, RP29, RP33, R101-R103, R120, R124, R126-R128, R134, R135, R141, R150-R152, R326, R327, R350, R351, R372-R375, R389-R392, RP511, RP512, R739, R763, R803	157637
11kΩ	R340, R341, R376, R377	240209
15kΩ	R320, R321, R378, R409, R410, R761	152196
16kΩ	R366, R367	240206
18kΩ	R716	152197
22kΩ	R119, R123, R160, R162, R303, R328-R331, R344, R345, R348, R349, R380, R381, RP504, RP505, RP513-RP516, RP519, RP520, R805, R809	240496
27kΩ	R115, R125, R362, R363, R762	250138
30kΩ	RP510	240497
33kΩ	R304, R307, R310, R311, R401, R402	240498
39kΩ	R118, R308, R332, R333, R407, R408	1420145
47kΩ	R154, R158, R165, R166, R398-R400, R403-R406, R411-R414, R707	240499
82kΩ	R324, R325	240500
100kΩ	R129	240501
120kΩ	RP509	240502
150kΩ	RP508	240503
220kΩ	R334-R337	157641
1MΩ	R117	240504
1.5MΩ	R354, R355	240505
10MΩ	R356, R357	240506
Carbon Film Resistors ¼W		
1.2Ω	RL07	1420151
47Ω	RP02, RP013	174853
75Ω	R757	240211
100Ω	RP43	240507
270Ω	R756	10042
390Ω	R737	240508
680Ω	R130	240509
4.7kΩ	RP21	240510
10kΩ	R104, R122, R140, R142	240511
47kΩ	R397	240512
Carbon Resistors ½W		
47Ω	R168	240513
120Ω	RP26	240514
470Ω	RP23	201711
1.5kΩ	RP42	250047

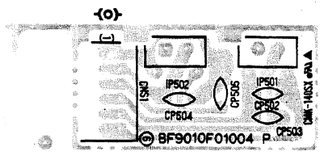
Description	Ref.	Part No.
Metal Film Resistors		
0.22Ω/¼W	RP44	240515
1.58/¼W	R7	240516
169Ω/¼W	RP30	240517
1.07kΩ/¼W	RP31	240518
1.82kΩ/¼W	RP28	240519
1.96kΩ/¼W	RP22	240520
2.21kΩ/¼W	R34	240521
3.92Ω/¼W	R32	240522
2.7kΩ	RP39	240523
3.32kΩ/¼W	RL01	240524
4.3MΩ/¼W	R338, R339	240525
Metal Oxide Resistors		
6.8Ω	RP506	249526
2.7kΩ	R39	240527
Chip Resistors 1/10W		
47Ω	RA04	240529
68Ω	RA13	154135
100Ω	RV03, RV11, RA01	240530
120Ω	RA02	240531
150Ω	RRV21, R727, R770	240532
220Ω	RV05, RV13, RV20, RL12, RL15, RL16, RA03	154143
270Ω	RA08	154144
330Ω	RV04, RV22	240533
390Ω	RRV24, RV25, RA07	154146
470Ω	RRV12, RV17, RV19, RV33, RL04, RL06, RL14	154147
820Ω	RRV23, RA12	240534
1kΩ	RV07, RV10, RV27, RV35, RV41, RV50-RV52, RL03, RA16	154153
1.5kΩ	RV38, RA09	240535
1.8kΩ	RV09, RL11, RA06	1541156
2.7kΩ	RL05	154158
3.3kΩ	RV37	154159
3.9kΩ	RV14, RL13	240536
4.7kΩ	RV02, RV18, RV36, RL02, RA18, RA21	250029
10kΩ	RV44-RV47, RL17, RL18, RA05, RA22, RA23, RP34, RP36, RP37	250135
18kΩ	RA20	240537
22kΩ	RA19	250034
33kΩ	RA24, RP15, RP32	250035
120kΩ	RL10	240538
150kΩ	RV06	240539
220kΩ	RA15	250039
Variable Resistors		
VR101	Trimmer Potentiometer 5k	171694
VR301, 302	Trimmer Potentiometer 220k	240386
VR701	Trimmer Potentiometer 10k	202207
PP01, PP02	Trimmer Potentiometer 500	157555
Miscellaneous		
	Remote Control Unit	240387
	Battery	
	Cable	240388
LP01	Power Transformer	240055
OS101	Sensor for Remote Control	240089
CY151, 152	Hinge Connector 10p	240389
	AC Cord	240070
TU702	Tuner Pack	240101
TU701	RF Convertor	240390
X101	X'Tal 2MHz	240095
X301	X'Tal 17.72MHz	240096
X302	X'Tal 18.08MHz	240391
CF301, 303	Ceramic Filter 10.7MJ-A	240074
CF302, 304	Ceramic Filter 10.52MJ	240075
CF305	Ceramic Discriminator CDA10.7MG21	240076
CF306	Ceramic Discriminator CDA10.52MG21	240077
TC701	Trimmer Capacitor VCT51	240392
FP10	Fuse 1.25A	240083
FP20, 30	Fuse 2A	240082
	Fuse Holder (x6) PFC5000	240393
J701	3 Pin Jack	240294
J702	Scart Jack	240058
LV01, LV05, LV08, LA02	Ferrite Bead Inductor BLO/RNI	240395
QL01	Ceramic Resonator CSB503F21	240396
D151, 152	LED Numeric Display LB-602 VK2	240398
D153	Red LED SLH-56VC	240399
D154, 155	Red LED	240450

NOTES

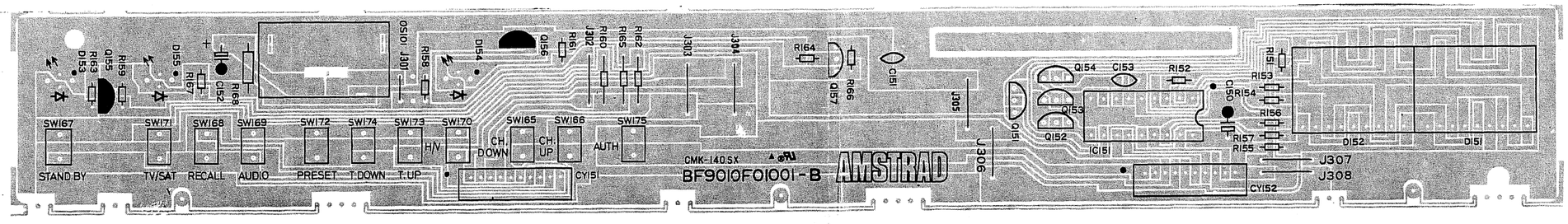
MAIN PCB (Component Layout)



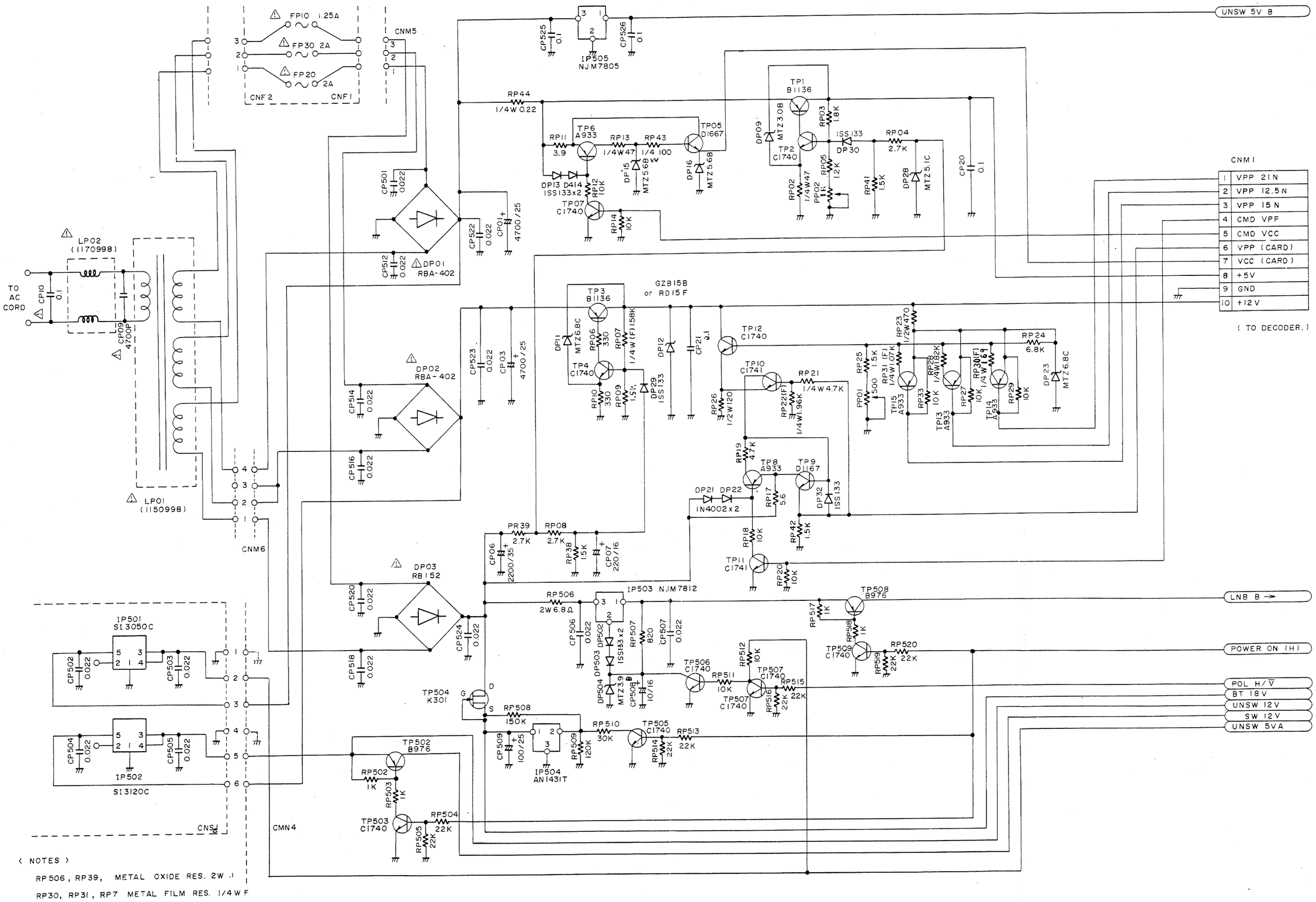
SUB ASSEMBLY PCB



CONTROL PCB (Component Layout)



POWER SUPPLY CIRCUIT DIAGRAM



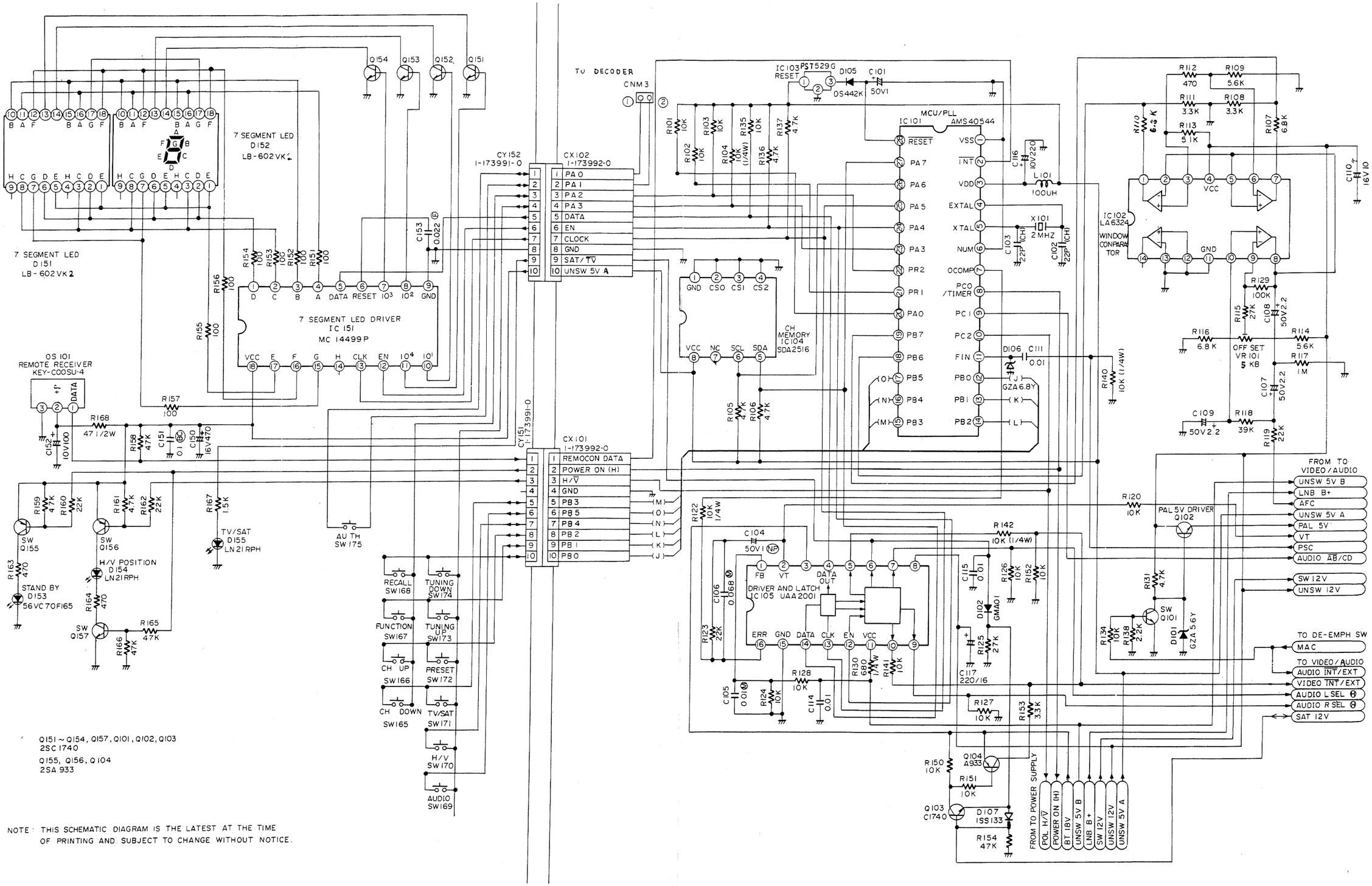
(NOTES)

RP506, RP39, METAL OXIDE RES. 2W ,I

RP30, RP31, RP7 METAL FILM RES. 1/4W F

RP22, RP28, RP44

TUNING CONTROL CIRCUIT DIAGRAM

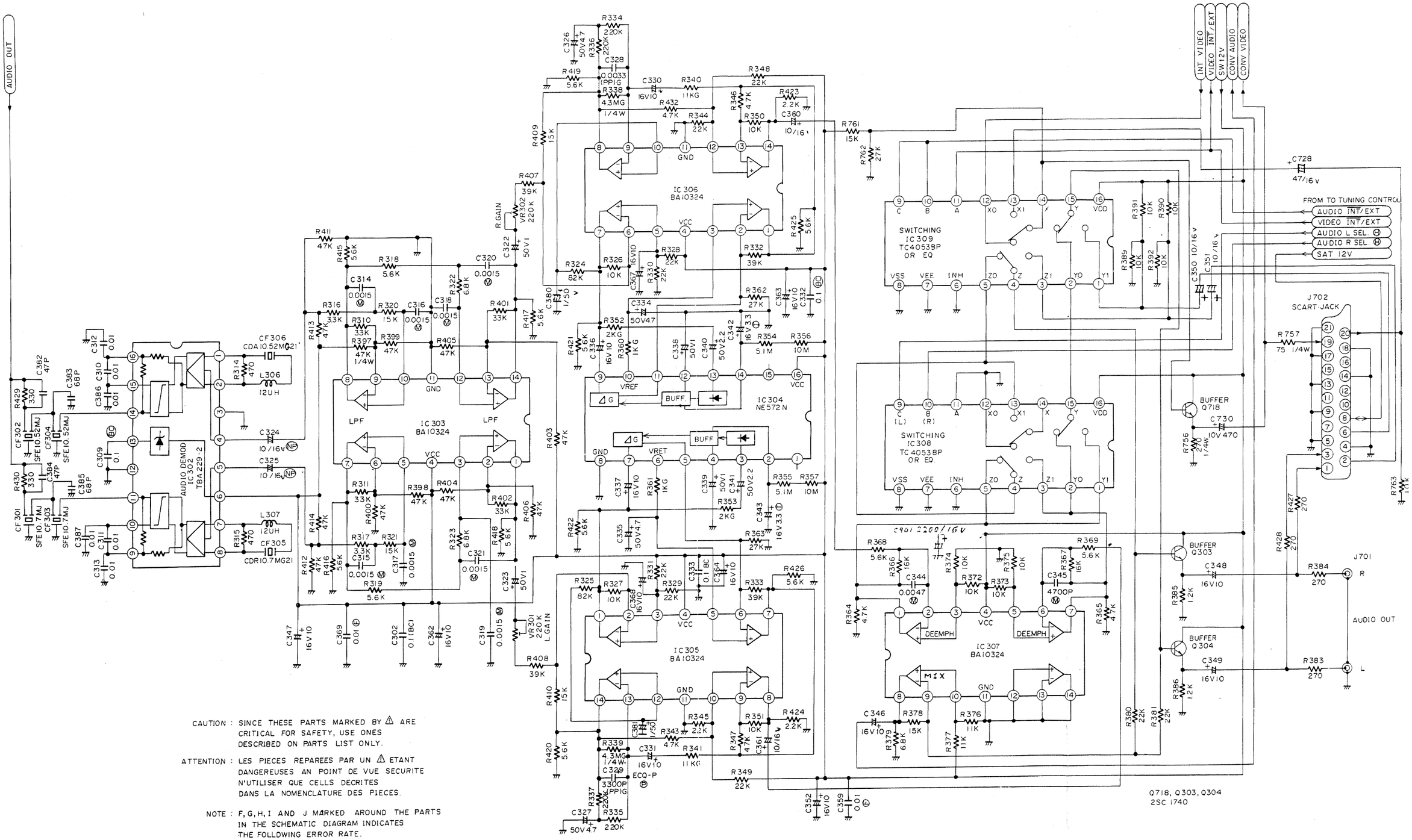


Q151 ~ Q154, Q157, Q101, Q102, Q103
2SC 1740

Q155, Q156, Q104
2SA 933

NOTE : THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

AUDIO/VIDEO CIRCUIT DIAGRAM



CAUTION : SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

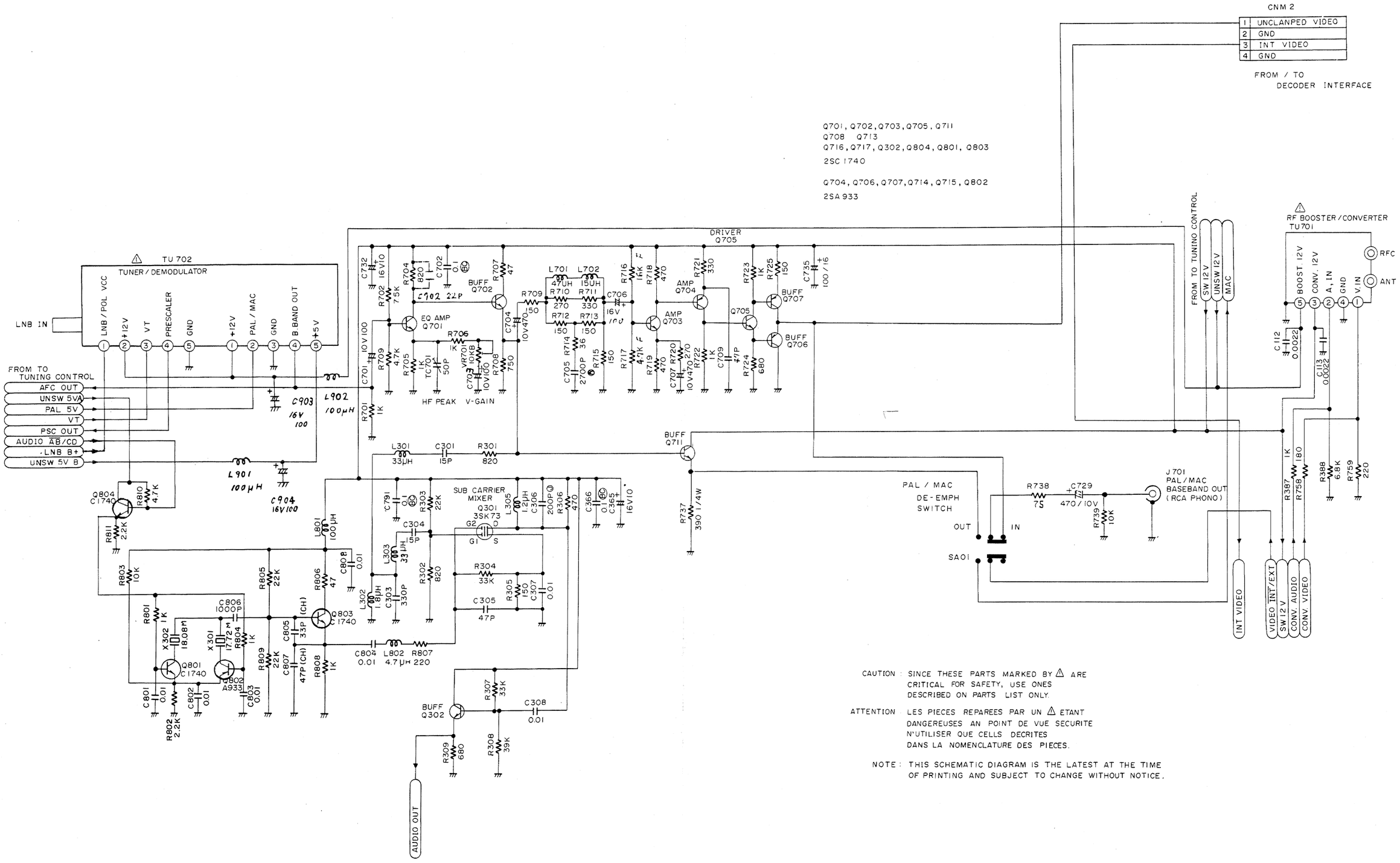
ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE : F, G, H, I AND J MARKED AROUND THE PARTS IN THE SCHEMATIC DIAGRAM INDICATES THE FOLLDWING ERROR RATE.
F : ±1x , G : ±2x , H : ±3x, I : ±4x , J : ±5x

NOTE : THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

WEGENER PANDA 1

TUNER/RF CONVERTOR CIRCUIT DIAGRAM

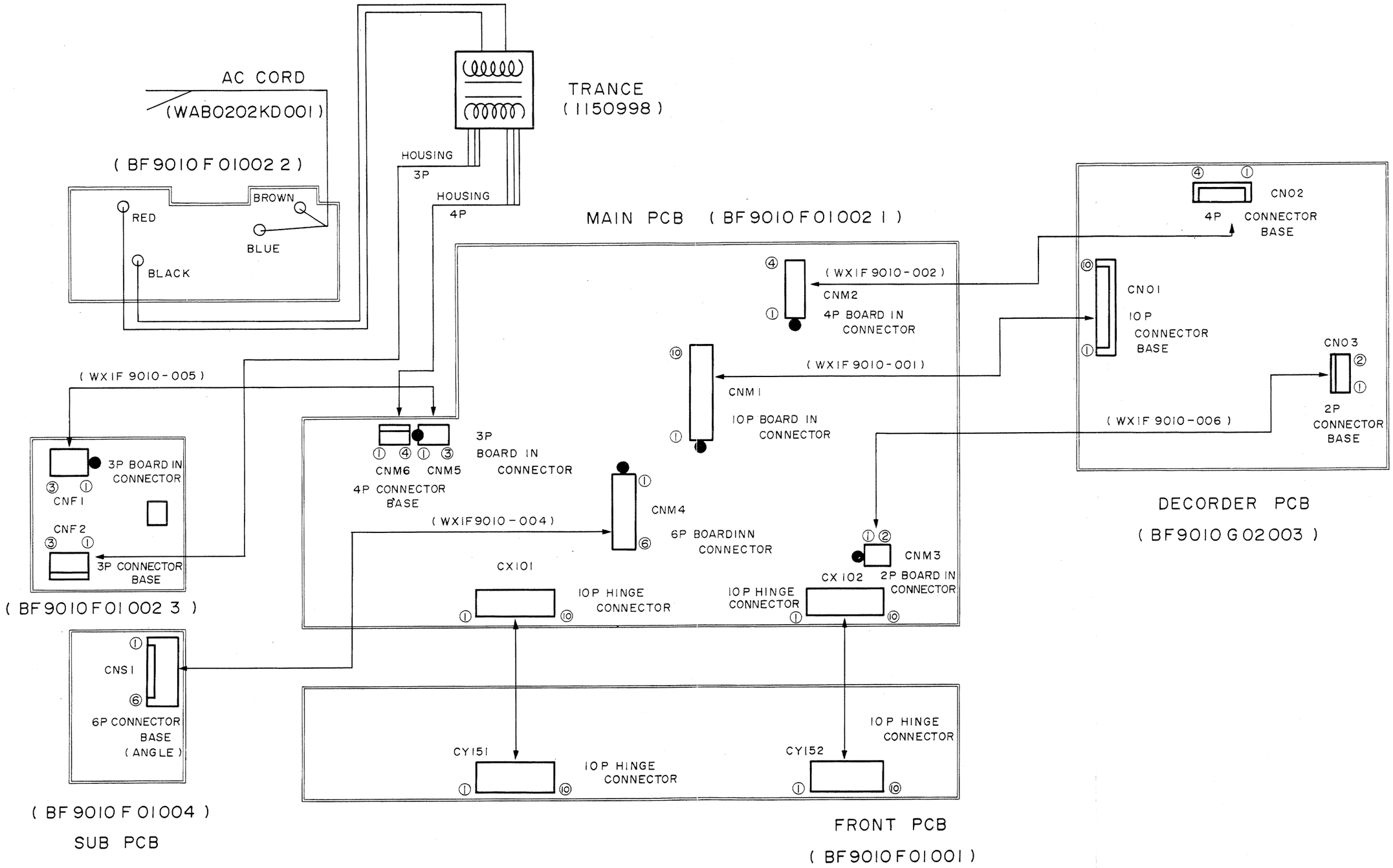


CAUTION : SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

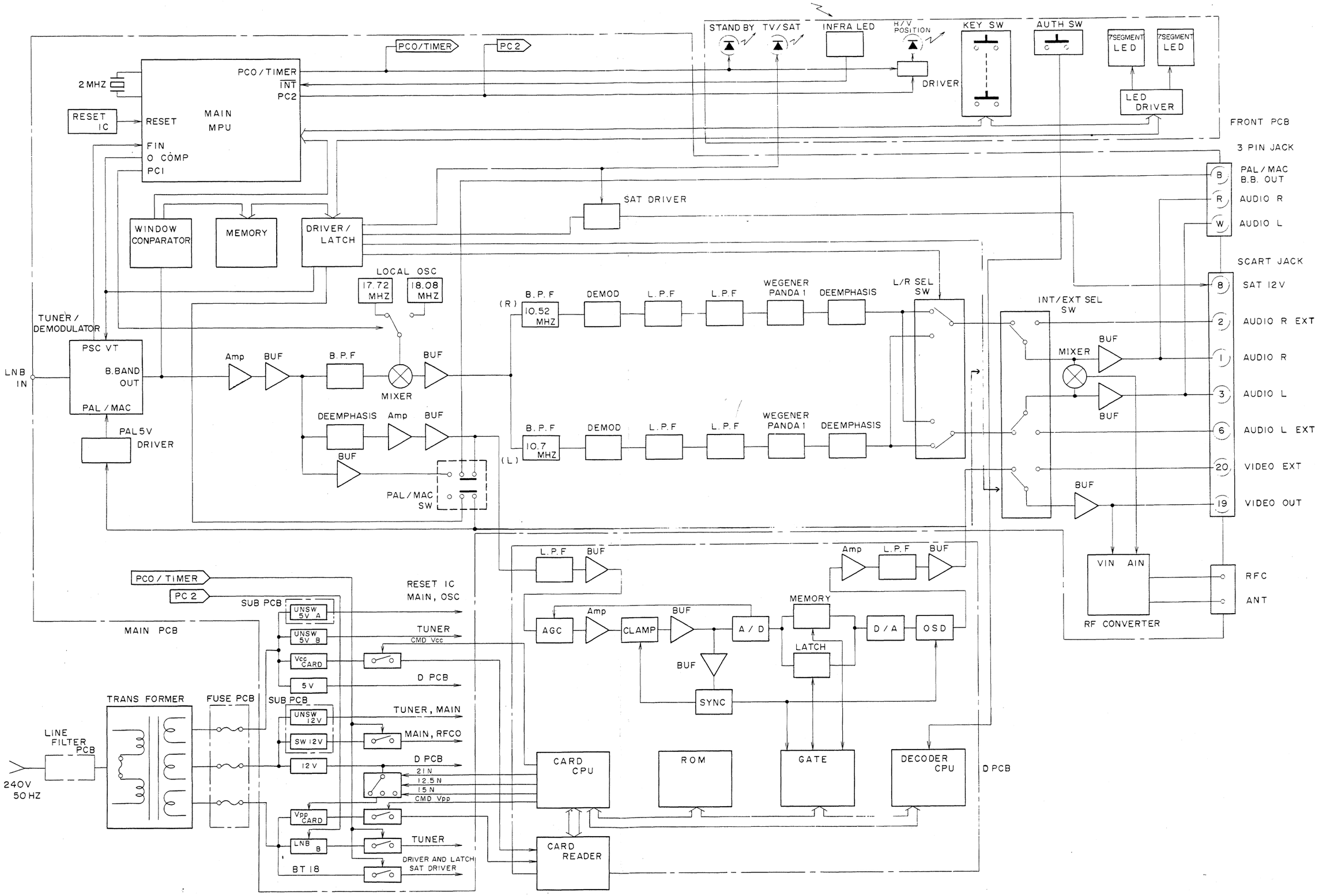
NOTE : THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

WIRING DIAGRAM



BLOCK DIAGRAM

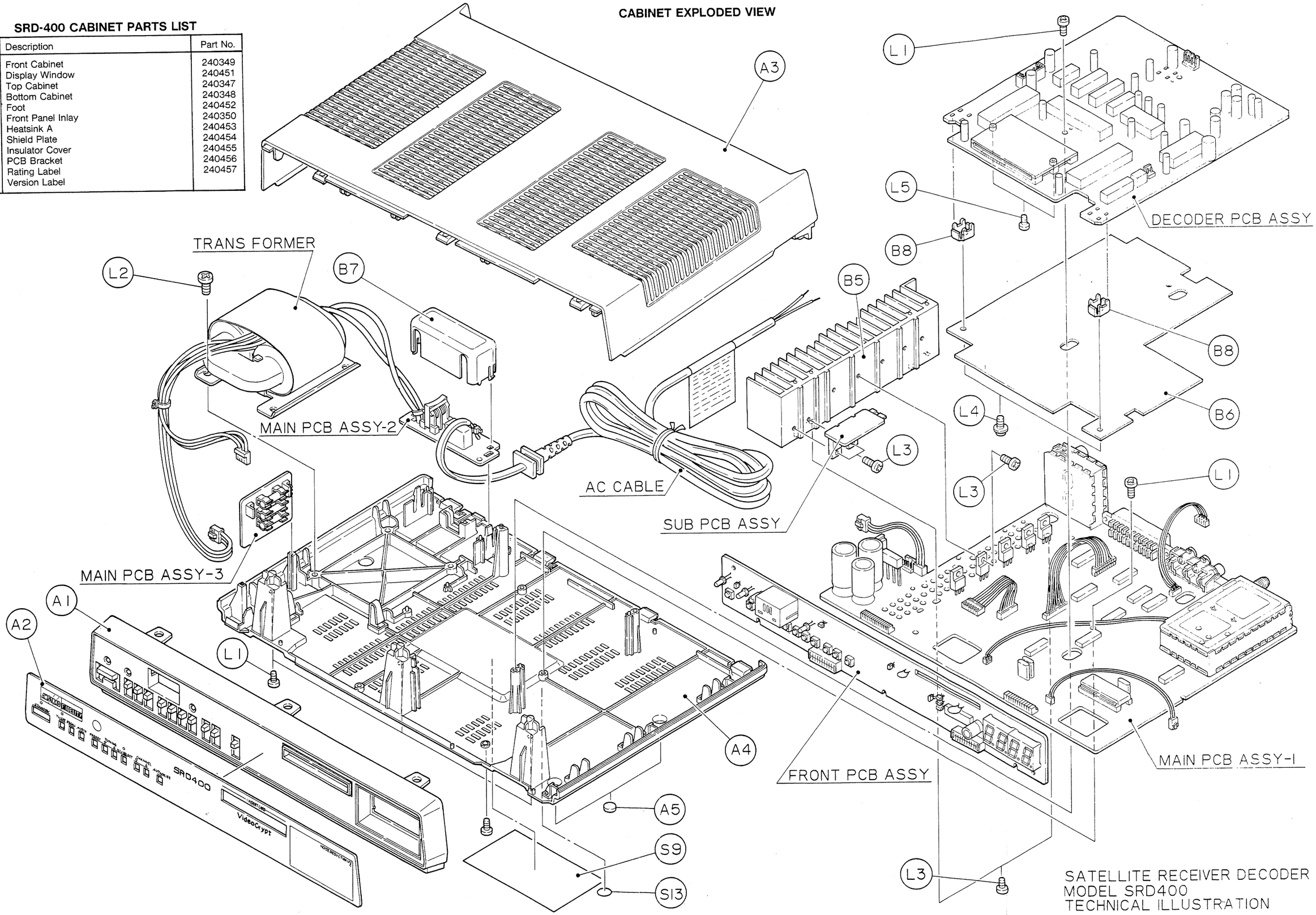
Block Diagram



SRD-400 CABINET PARTS LIST

Ref.	Description	Part No.
A1	Front Cabinet	240349
A2	Display Window	240451
A3	Top Cabinet	240347
A4	Bottom Cabinet	240348
A5	Foot	240452
	Front Panel Inlay	240350
B5	Heatsink A	240453
B6	Shield Plate	240454
B7	Insulator Cover	240455
B8	PCB Bracket	240456
S9	Rating Label	240457
S13	Version Label	

CABINET EXPLODED VIEW



SATELLITE RECEIVER DECODER
MODEL SRD400
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